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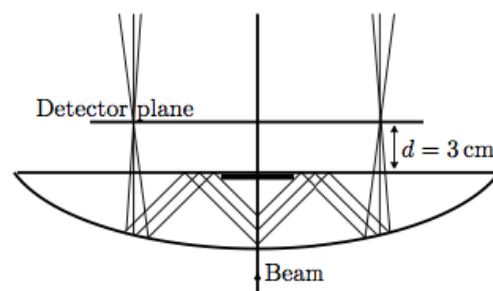
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Geometry of the testbeam optics

- A slide from Jibo with the optical setup:

Parameters of beam and radiator

- Beam (H8 at SPS) [10/03/2014]
 - ▶ Energy, 180 GeV,
 - ▶ Mainly pion ($\beta = 0.9999997$) and proton ($\beta = 0.999986$)
 - ▶ Profile, RMS~10mm
- Radiator (Lens)
 - ▶ $n \sim 1.5$
 - ★ $\theta_{\text{ckv}} = \arccos \frac{1}{n\beta} = 48.2^\circ$
 - ★ Critical angle $\theta_c = \arcsin \frac{1}{n} = 41.8^\circ$
 - ★ $\rho_{\text{threshold}} = 0.89 \cdot m_0$
 - ▶ Only take photons emitted in the first 10mm
 - ★ Width of dark cover: $(27 - 10) \times \tan \theta_{\text{ckv}} = 17 \times 1.12 = 19 \text{ mm}$
 - ▶ Roc: 138.4 mm



Jibo He (CERN)

RICH upgrade testbeam simulation, status

October 21, 2014

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-- StephenWotton - 2014-11-06

This topic: LHCb > RichTB2014Sketch

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